

**In the Claims:**

**Please amend the claims of the above-identified application so as to read as follows:**

1. (Currently Amended) A signal line drive circuit provided with a reference voltage chooser circuit for choosing one of multiple incoming voltages in accordance with tones represented by an image signal to output the chosen voltage as a signal line drive signal, comprising  
reference voltage transmission means for simultaneously directly transmitting multiple first reference voltages from external first reference voltage supply means to the reference voltage chooser circuit.
  
2. (Currently Amended) A signal line drive circuit provided with a reference voltage chooser circuit for choosing, in accordance with tones represented by an image signal, a voltage among multiple reference voltages supplied to the signal line drive circuit to output as a signal line drive signal, wherein:  
a second reference voltage produced by voltage division from at least two first reference voltages is supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance;  
and  
the first reference voltages are simultaneously directly supplied to the reference voltage chooser circuit from external first reference voltage supply means.

3. (Currently Amended) A signal line drive circuit provided with a reference

voltage chooser circuit for choosing, in accordance with tones represented by an image signal, a voltage among multiple voltages supplied to the reference voltage chooser circuit to output as a signal line drive signal, wherein:

multiple first reference voltages are supplied simultaneously and directly from external first reference voltage supply means to the reference voltage chooser circuit;

a second reference voltage produced by voltage division from at least two of the first reference voltages is supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance; ~~among power supply voltages supplied to the reference voltage chooser circuit, at least a~~ when a buffer circuit power supply voltage is supplied to the buffer circuit via a first switch controlled ~~through~~ by a first control signal; and

the reference voltage chooser circuit chooses one of incoming voltages to output as a signal line drive signal in accordance with the tones represented by the image signal.

4. (Original) The signal line drive circuit as defined in claim 3, wherein

the first switch is controlled in accordance with the number of tones represented by the image signal.

5. (Currently Amended) A signal line drive circuit, provided with a voltage chooser circuit and a voltage divider circuit for producing a second reference voltage by voltage division from at least two first reference voltages ~~that also are,~~ the at least two first reference voltages being supplied simultaneously directly to the voltage chooser circuit from external first reference voltage supply means, and a buffer circuit for selectively providing the second reference voltage to the voltage chooser circuit in response to a first control signal ~~via a buffer circuit~~, the signal line drive circuit outputting a signal line drive signal in accordance with tones represented by an image signal, wherein
- a second switch controlled ~~through~~ by a second control signal is interposed between the first reference voltages and the voltage divider circuit.

6. (Original) The signal line drive circuit as defined in claim 5, wherein
- the second switch is controlled in accordance with the number of tones represented by the image signal.

7. (Currently Amended) A signal line drive circuit, comprising:
- a sampling circuit for sampling an image signal so as to generate
- a sampling signal representative of the number of tones contained in said image signal;
- a reference voltage chooser circuit for choosing a reference voltage in accordance with
- the sampling signal to output a signal line drive signal from among multiple first reference voltages simultaneously directly supplied to the reference voltage chooser circuit from external first reference voltage supply means, and a second reference voltage produced by voltage division from at least two of the first reference voltages supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance; and

a decoder circuit for controlling the reference voltage chooser circuit in accordance with the sampling signal ;  
wherein:  
the decoder circuit is controlled ~~through~~ by a third control signal according to a decoder table determined by the number of tones represented by the sampling signal; and  
the reference voltage chosen by the reference voltage chooser circuit ~~changes a reference voltage choosing pattern~~ in response to an output of the decoder circuit.

8. Canceled, without prejudice.

9. (Currently Amended) A signal line drive circuit including:  
a sampling circuit for sampling an image signal;  
a voltage divider circuit for producing a second reference voltage by voltage division from multiple first reference voltages from external voltage supply means supplied to the signal line drive circuit; and  
a reference voltage chooser circuit for choosing one of said first or second reference voltages to output as a signal line drive signal,  
the first reference voltages being supplied simultaneously directly to the reference chooser circuit and the second reference voltage being supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance,

the signal line drive circuit including a decoder circuit for  
controlling the reference voltage chooser circuit in accordance with the sampled  
signal and outputting the signal line drive signal in accordance with tones  
represented by the sampled signal,  
said signal line drive circuit comprising at least any one of:  
(i) a first switch to cut off power supply to the buffer circuit;  
(ii) a second switch interposed between the first reference  
voltages and the voltage divider circuit to cut off the reference voltage supplied to the  
voltage divider circuit; and  
(iii) a decoder control circuit for changing a decoder table so as to change  
a pattern according to which the reference voltage chosen by the reference  
voltage chooser circuit chooses a reference voltage in response to said sampled  
signal,  
wherein  
at least any one of the first switch, the second switch, and  
the control circuit is set decoder table for the decoder circuit is/are controlled for  
closure/opening or changed in accordance with the number of tones represented  
by the image signal.

10. (Currently Amended) A signal line drive circuit including:  
a sampling circuit for sampling an image signal;  
a voltage divider circuit for producing a second reference  
voltage by voltage division from at least two first reference voltages supplied to  
the signal line drive circuit; and

a reference voltage chooser circuit for choosing one of said first or said second reference voltages to output as a signal line drive signal, the first reference voltages being supplied simultaneously directly to the voltage chooser circuit from external first reference voltage supply means and said second reference voltage being supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance,

the signal line drive circuit including a decoder circuit for controlling the reference voltage chooser circuit in accordance with the sampled signal and outputting the signal line drive signal in accordance with tones represented by the sampled signal,

said signal line drive circuit comprising:

- a first switch to cut off power supply to the buffer circuit;
- a second switch interposed between the first reference voltages and the voltage divider circuit to cut off the reference voltage supplied to the voltage divider circuit; and
- a ~~decoder~~ control circuit for changing a decoder table so as to change the reference voltage chosen by a pattern according to which the reference voltage chooser circuit ~~chooses a reference voltage in response to said sampled signal,~~

wherein

when the number of tones represented by the image signal is less than or equal to the number of the first reference voltages, the first switch and the second switch are both opened, and the ~~decoder~~ control circuit ~~switches~~ changes the decoder table to one of the decoder tables that matches the number of tones represented by the image signal.

11. (Currently Amended) An image display device, comprising:

- pixels arranged in a matrix form;
- signal lines connected to the pixels;
- scan lines connected to the pixels;
- a scan signal line drive circuit for supplying scan signals to the scan lines for a vertical scan; and
- a signal line drive circuit for supplying signal line drive signals to the signal lines, the signal line drive circuit including a reference voltage chooser circuit for choosing, in accordance with tones represented by an image signal, a first or a second reference voltage to output as the chosen voltage,

wherein:

- the second reference voltage is produced by voltage division from at least two of the first reference voltages and is supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance; and
- the first reference voltages are simultaneously directly supplied to the reference voltage chooser circuit from external first reference voltage supply means .

12. (Original) A portable apparatus, comprising an image display device as defined in claim 11.

13. (Currently Amended) An image display device, comprising:

- pixels arranged in a matrix form;
- signal lines connected to the pixels;
- scan lines connected to the pixels;
- a scan signal line drive circuit for supplying scan signals to the scan lines for a vertical scan; and
- a signal line drive circuit for supplying signal line drive signals to the signal lines, the signal line drive circuit including a reference voltage chooser circuit for choosing, in accordance with tones represented by an image signal, a first or a second reference voltage to output as the chosen voltage,

wherein:

- the second reference voltage is produced by voltage division from at least two of the first reference voltages and is supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance;
- the first reference voltages are supplied simultaneously directly to the voltage chooser circuit from an external first reference voltage source; and
- ~~among power supply voltages supplied to the signal line drive circuit, at least a~~ buffer circuit power supply voltage ~~supplied to the buffer circuit~~ is supplied to the buffer circuit via a first switch controlled ~~through~~ by a first control signal.

14. (Original) A portable apparatus, comprising an image display device as defined in claim 13.



15. (Currently Amended) An image display device, comprising:

pixels arranged in a matrix form;  
signal lines connected to the pixels;  
scan lines connected to the pixels;  
a scan signal line drive circuit for supplying scan  
signals to the scan lines for a vertical scan; and  
a signal line drive circuit for supplying signal line

drive signals to the signal lines, the signal line drive circuit including: a  
~~voltage divider circuit for producing a second reference voltage by~~  
~~voltage division from multiple first reference voltages from external~~  
~~reference voltage supply means; and a reference voltage chooser circuit~~  
for choosing an output from among said first and said second reference  
voltages in accordance with tones represented by an image signal ; and a  
voltage divider circuit for producing said second reference voltage by  
voltage division from multiple first reference voltages simultaneously  
directly supplied to said voltage chooser circuit from external reference  
voltage supply means,

wherein

a second switch controlled ~~through~~ by a second control  
signal is interposed between the first reference voltages and the voltage  
divider circuit.

16. (Original) A portable apparatus, comprising an image display  
device as defined in claim 15.

17. (Currently Amended) An image display device, comprising:
- pixels arranged in a matrix form;
  - signal lines connected to the pixels;
  - scan lines connected to the pixels;
  - a scan signal line drive circuit for supplying scan signals to the scan lines for a vertical scan; and
  - a signal line drive circuit including:
    - a sampling circuit for sampling an image signal so as to generate a sampling signal representative of the number of tones contained in the image signal; a reference voltage chooser circuit for choosing an output in accordance with tones represented by the sampling signal from among first reference voltages simultaneously directly supplied to the reference voltage chooser circuit from external first reference voltage supply means and a second reference produced by voltage division from at least two of the first reference voltages supplied to the reference voltage chooser circuit via a buffer circuit having a high input impedance and a low output impedance; and a decoder circuit for controlling the reference voltage chooser circuit in accordance with the sampling signal, the reference voltage chooser circuit supplying signal line drive signals to the signal lines,
- wherein:
- the decoder circuit is controlled ~~through~~ by a third control signal according to a decoder table determined by the number of tones represented by the sampling signal; and
  - the reference voltage chooser circuit changes a the chosen ~~reference voltage choosing pattern~~ in response to an output of the decoder circuit.

18. (Previously Presented)      A portable apparatus, comprising an image display device as defined in claim 17.

19. (Currently Amended)      An image display device, comprising:  
pixels arranged in a matrix form;  
signal lines connected to the pixels;  
scan lines connected to the pixels;  
a scan signal line drive circuit for supplying  
scan signals to the scan lines for a vertical  
scan; and  
a signal line drive circuit including:  
a voltage divider circuit for producing a second  
reference voltage by voltage division from multiple first  
reference voltages supplied to the signal line drive  
circuit from external first reference voltage supply  
means;  
a reference voltage chooser circuit for choosing  
among said first reference voltages supplied  
simultaneously directly thereto or a second reference  
voltage from said voltage divider circuit in accordance  
with tones represented by an image signal to output the  
chosen voltage;

a sampling circuit for sampling the image signal; and  
a decoder circuit for controlling the reference voltage  
chooser circuit in accordance with the sampled signal,  
the second reference voltage being supplied to the reference  
voltage chooser circuit via a buffer circuit having a high input  
impedance and a low output impedance,  
said signal line drive circuit comprising at least any one of:  
(i) a first switch to cut off power supply to  
the buffer circuit;  
(ii) a second switch interposed between the  
first reference voltages and the voltage divider circuit to  
cut off the reference voltage supplied to the voltage  
divider circuit; and  
(iii) a decoder control circuit for changing a decoder  
table so as to change a pattern according to which the  
reference voltage chosen by the reference voltage  
chooser circuit chooses a reference voltage,

wherein

at least any one of the first switch, the second switch, and the ~~decoder table for~~  
~~the decoder control~~ circuit ~~is/are controlled for closure/opening or changed~~ is set  
in accordance with the number of tones represented by the image signal.

20. (Currently Amended) The image display device as defined in claim 19,

~~further comprising~~ wherein said control circuit comprises a setup circuit  
for controlling at least any one of the first switch, the second switch, and  
the ~~decoder~~ voltage chooser circuit in accordance with a change in the  
number of tones represented by the image signal, so as to switch between  
among drive modes of said image display device arbitrarily.

21. (Original) A portable apparatus, comprising an image display  
device as defined in claim 19.

22. (Currently Amended) An image display device including:

pixels arranged in a matrix form;  
signal lines connected to the pixels;  
scan lines connected to the pixels;  
a scan signal line drive circuit for supplying  
scan signals to the scan lines for a vertical scan; and  
a signal line drive circuit including:  
a voltage divider circuit for producing a second  
reference voltage by voltage division from at least two  
first reference voltages;  
a reference voltage chooser circuit for choosing  
one of said first or second voltages in accordance with  
tones represented by an image signal to output as the  
chosen voltage;

a sampling circuit for sampling the image signal; and  
a decoder circuit for controlling the ~~reference~~  
reference voltage chooser circuit in accordance with the  
sampled signal,

the first reference voltages being supplied simultaneously  
directly to the voltage chooser circuit from external first  
reference voltage supply means and the second reference  
voltage being supplied to the reference voltage chooser  
circuit via a buffer circuit having a high input impedance  
and a low output impedance, the signal line drive circuit  
supplying signal line drive signals to the signal lines in  
accordance with tones represented by the image signal  
sampled by the sampling circuit,

said image display device comprising:

a first switch to cut off power supply to the buffer  
circuit;

a second switch interposed between the first reference voltages  
and the voltage divider circuit to cut off the reference voltage supplied  
to the voltage divider circuit; and

a ~~decoder~~ control circuit for changing a decoder table so as to  
change a ~~pattern according to which~~ the reference voltage chosen by the  
reference voltage chooser circuit ~~chooses a reference voltage;~~

wherein

when the number of tones represented by the image signal is

less than or equal to the number of the first reference voltages, the first  
switch and the second switch are both opened, and the ~~decoder~~ control  
circuit switches the decoder table to a decoder table one of the decoder  
~~tables~~ that matches the number of tones represented by the image signal.

23. (Currently Amended) The image display device as defined in claim 22, further  
comprising wherein said control circuit comprises a setup circuit for controlling  
at least any one of the first switch, the second switch, and the ~~decoder~~ voltage  
chooser circuit in accordance with a change in the number of tones represented  
by the image signal, so as to switch ~~between~~ among drive modes of said image  
display device arbitrarily.

24. (Original) A portable apparatus, comprising an image display device  
as defined in claim 22.